THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

NEPHROTOMY FOR PYELITIS.

BY I. S. STONE, M.D.,
OF LINCOLN, VA.

H. J., æt. thirty-two, farmer, consulted me in August, 1885, giving the following history: For four years he had discharged mucus or pus with his urine. During all this time he had undergone treatment for cystitis, and of late for supposed Bright's disease. Micturition had been frequent, and during the past two years he had been obliged to evacuate his bladder every half hour or hour. Some pain had been experienced in the lumbar region—never acute, however—and early in the disease it had been accompanied by hæmaturia. None of these symptoms had caused attention to be directed to the kidneys as the seat of the disease.

Accepting the statement of the patient as fact, his urine had never been examined microscopically, hence the presence or absence of tube casts had never been determined. He had received treatment from various physicians, and had apparently tried nearly all remedies supposed to influence the urinary tract. His bladder had been sounded for stone with a negative result. The urine on standing a short time threw down a copious deposit of pus, fully twenty per cent. of its volume; specific gravity 1.020; albumen present in small quantity after careful filtration, though its presence in such cases is negative. When examined microscopically it was found literally swarming with bacteria. No tube casts were present. In appearance the patient was much emaciated, and suggested phthisis, or similar wasting disease, his condition unfitting him for any business pursuit. An exploration of the bladder was not permitted, owing to the extreme weakness and sensitiveness of the patient.

A diagnosis of pyelitis with contracted bladder was made at this time, but the patient was unwilling to undergo operative interference. A general tonic plan of treatment was instituted, and in addition to this the chloride of gold and sodium, gr. $\frac{1}{20}$ every three hours, was given.

Improvement followed at first, and enabled the patient to supervise his business affairs for a few months. His health began failing in November, and I was called to see him again. At this time he consented to have any treatment necessary for his relief. A tumor was discovered in the left lumbar region, causing pain on pressure and giving obscure fluctuation. On December 23d, the patient being etherized, an incision was made beginning at a point half an inch below the last rib, three inches from the spine, extending downward and slightly forward for three inches. The various muscles were easily recognized, and only one vessel required a ligature. Venous hemorrhage was considerable, owing probably to obstructed circulation. Some difficulty was experienced in detecting the kidney, owing to the firm adhesions found subsequently, and also due to the absence of fat usually found in this region. The adhesions of the sac enveloping the kidney to the muscular tissues—*i. e.*, the quadratus lumborum—adjoining, caused the movements of the kidney in respiration to be imparted to this muscle. The movements of the kidney *per se*, alluded to by Tiffany in his interesting article on nephrolithotomy, in cases like the one under consideration, must prove deceptive, and consequently useless as a guide. No hemorrhage followed section of the kidney, owing to its extreme degeneration. About two ounces of pus escaped from a cavity nearly in the centre of the organ. Examination of this cavity furnished no exact information of the condition of the remainder of the organ, but enough was apparent to decide against further procedure at present. The possibility of nephrectomy, even after this preparatory operation, was not entertained, because of the difficulties discovered in this exploratory incision. After thoroughly irrigating the abscess cavity and wound with bichloride solution 1 : 1000, a drainage tube was inserted, and the wound carefully closed. An iodiform dressing was applied, and the patient put to bed. A catheter was introduced into the bladder, giving exit to an ounce of bloody urine.

The patient reacted well from the operation, and had a good night, requiring only a small quantity of morphia—gr. $\frac{1}{8}$. Temporary improvement followed. His pulse formerly 115–140, now 75–85; temperature formerly 102°–103°, now 99°–101°; appetite much improved. The wound discharged urine for a week, after which none could be discovered. The drainage tube was removed in ten days, after which pus continued to flow from the wound, and a probe could be easily passed into the kidney. His improvement continued for three weeks, during which time he sat in his chair, and walked from bed to chair at will. The amount of purulent discharge was greatly diminished, for ten days none was seen in the urine. In about three weeks, however, the patient grew worse, and was unable to take food in sufficient quantities. To this were added signs of tubercular disease of the left lung, which carried off the patient on February 3, 1886, forty-three days after operation.

Autopsy four hours after death.

The peritoneum was undergoing septic inflammation on the left side, caused by escape of a small amount of pus from the abscess in and around the kidney. Right kidney enlarged fully five inches in length, apparently healthy. Left kidney covered by densely thickened and cicatricial peritoneum. The descending colon firmly adherent to the sac of a large abscess, in the centre of which was the kidney in a state of advanced degeneration. The opening

made at the time of the operation was patent, and the exit for pus posteriorly was direct and complete. The left ureter was correspondingly dilated for three inches of its length, and contained one-half ounce of pus. The bladder was so much contracted as to be recognizable only by its location after a sound had been passed through the urethra into it. Its capacity was not more than an ounce.

The autopsy showed conclusively that any attempt to remove the kidney must have resulted unfavorably. This case is cited to give force to the growing sentiment in favor of actual exploration of the kidney in cases of suspected renal disease. Had nephrectomy or even nephrotomy been done at the proper time, this patient might have been saved. Certainly the one healthy kidney had been doing the work of two for months, perhaps years.

It remains an open question as to the cause of this case of pyelitis. There was no history of stricture or gonorrhœa. The cystitis commenced with the discharge of pus, and the left ureter was dilated at its upper extremity and was not at its lower, therefore it seems probably that it was primarily pyelitis, and the contraction of the bladder resulted from secondary cystitis.

BACTERIOLOGICAL NOTES.

BY GEORGE M. STERNBERG, M.D.,
MAJOR AND SURGEON U. S. ARMY.

(Concluded from page 682.)

MICROBE OF FOWL-CHOLERA AND OF RABBIT-SEPTICÆMIA.—The difficulties into which we are thrown by the confusion which exists with reference to nomenclature are illustrated by the fact that the organism at present under consideration is called by some observers a micrococcus, by others a bacterium, and by others a bacillus. Thus we have in Eisenberg's list, under the head of "Pathogenic Bacteria," No. 32, bacillus of fowl-cholera—*cholera des poules* (Pasteur); and No. 33, bacillus of rabbit-septicæmia (Koch).

In the recent work of Crookshank,[1] the same organism is described under the headings, *Micrococcus of Septicæmia in Rabbits* (Koch); and *Micrococcus Choleræ Gallinarum* (*Bacterium of Fowl-cholera, Microbe du Cholera des Poules*).

Klein refers to the same organism under the headings *Bacterium Septicæmia* (Koch) and *Bacterium of Fowl-cholera* (*Microbe du Cholera des Poules*).[2]

Under these circumstances the more general term "microbe," which we have placed at the head of this article is convenient.

Our object in calling the attention of the readers of a medical journal to this particular microbe is to illustrate the difficulties of classification and certain other points to which reference has been made. Important questions in epidemiology are involved in our researches relating to the infectious diseases of the lower animals, and at the present day no one will be likely to consider it beneath the dignity of a physician, or of a medical journal to consider the evidence relating to such diseases as fowl-cholera and rabbit-septicæmia.

[1] Practical Bacteriology, London and New York, 1886.
[2] Microörganisms and Disease, London, 1885.

The researches of Toussaint,[1] of Gaffky,[2] of Dowdeswell,[3] and others others seem to establish the fact that the microbe which Pasteur has shown to be the cause of fowl-cholera, and has described as a micrococcus, is identical with the "bacillus"—"micrococcus," "bacterium"—of that form of rabbit-septicæmia which Koch and Gaffky have induced experimentally, and also, it is probable, with the microbe of "Davaine's septicæmia."

The organism, as obtained from the blood of infected fowls, is identical morphologically with that found in the artificially induced septicæmia of rabbits, and in pathogenic power and behavior in culture-media, the microbe, as obtained from one source or the other, presents no appreciable differences. Dowdeswell, in a recent paper (*l. c.*), infers that the micrococcus to which I have given the name *M. Pasteuri* is also identical with the above. This is a mistake. The organisms differ in their morphology as well as in their pathogenic properties. *M. Pasteuri* does not kill fowls and pigeons, and is not so quickly fatal to rabbits, as is the "bacillus of rabbit-septicæmia." The last-mentioned organism inoculated into the ear of a rabbit in the smallest quantity causes death in from sixteen to twenty hours; while Fränkel[4] has shown that *M. Pasteuri*, when inoculated into the ear of a rabbit, gives rise to a non-fatal local infection, followed by immunity; and my own numerous experiments show that in subcutaneous injections of a considerable quantity of a fresh culture, a fatal result does not occur in less than twenty-four to forty-eight hours. There are also differences as regards the growth of the two organisms in culture-media, and especially with reference to the temperature at which growth may occur. *M. Pasteuri* requires for its development a temperature of 30° to 35° C., and is therefore restricted, in temperate climates at least, to a parasitic mode of life—*e. g.*, in the human mouth. On the other hand, the microbe of fowl-cholera and of rabbit-septicæmia grows, although slowly, at ordinary temperatures, and may be cultivated in solid or liquid media without the use of an incubating-oven. That it is not restricted to a parasitic mode of life is shown by the fact that various experimenters have induced this form of rabbit-septicæmia by injecting beneath the skin of these animals an infusion of flesh, which had been freely exposed to the air for several days and had become putrid.

Koch first pointed out the fact that in stained preparations his "bacillus" of rabbit-septicæmia stains deeply at the two extremities, while the central portion remains unstained. This has been verified by numerous observers, and is readily seen in a good preparation made from the blood of an infected rabbit or fowl.

This staining of the two ends gives to the rods, when viewed with a low power, the appearance of diplococci, and the same impression is conveyed by

[1] Identité de la septicémie experimentale aigué et du cholera des poules. Compt. rend. Ac. d. sc., Paris, 1880, xci. 301–303.
[2] Experimentell erzeugte Septicämie, etc. Mitth. a. d. Kaiserlichen Gesundheitsamte. Berlin, 1881, i. 93–116.
[3] Proceedings of the Royal Society, London, No. 221, 1882; also Journal Roy. Mic. Soc., vol. vi. pp. 32–36 (1886).
[4] Zeitschrift für klin. Med., Band x. H. 526, S. 402–460, 1886.

the examination of the organism in fresh blood. Thus Pasteur describes it as having the form of the figure 8. It is now generally recognized, however, that this microbe is not a coccus. If we adopt Zopf's classification, it must be placed in the genus *bacterium;* or if we follow the nomenclature of the Berlin school of bacteriologists we must call it a bacillus.

The view maintained by Coze and Feltz, by Wernich,[1] and by others, that there is an increase in pathogenic power when the bacillus of rabbit-septicæmia is transmitted by successive inoculations through a series of animals is not sustained by the more recent researches of Gaffky,[2] and of Dowdeswell.[3] These observers have shown that the maximum degree of virulence is exhibited at the outset. Gaffky, after considering the experimental evidence in a most careful manner, says:

"A progressive virulence, such as is affirmed by the supposed law of Davaine, has not been demonstrated up to the present time either for septicæmia or for any other experimental infectious disease.[4] On the contrary, the experiments of Davaine are in accord with our own, and show that in the first, or at latest the second generation, the full virulence is reached" (l. c., p. 114).

In general, we may say that the experimental evidence relating to the infectious diseases of the lower animals gives no support to the supposition that harmless microörganisms may acquire pathogenic power, within a brief time, as a result of exceptional circumstances in their environment. On the other hand, we have evidence that many pathogenic organisms are widely distributed in nature, as is the bacillus of rabbit-septicæmia and fowl-cholera, and that while their abundant multiplication must depend upon conditions relating to the supply of pabulum, temperature, etc., their pathogenic power is one of their fixed physiological characters.

But we have also experimental evidence which shows that this pathogenic power is subject to modifications. According to Pasteur, cultures of the microbe of fowl-cholera, when kept for two or three months, become "attenuated," as regards their virulence. And this diminution in virulence is said to correspond with the length of time the culture is kept, and to be preserved in a series of cultures made at short intervals. A similar "attenuation" of virulence has been demonstrated in the case of the anthrax bacillus and in the bacillus of *rouget* (swine plague), and a *premier* and *deuxième vaccin* may now be obtained for each of these diseases from M. Boutroux, 28 Rue Vauquelin, Paris, whose establishment is in the immediate vicinity of Pasteur's laboratory, where the attenuated virus is prepared.

That pathogenic organisms may undergo similar modifications in nature's laboratory is extremely probable, but this is quite a different thing from the *de novo* development of pathogenic power. In epidemics of certain diseases—*e. g.*, yellow fever—it often happens that the earlier cases are of a comparatively mild character, and that, as the epidemic progresses, a greater degree malignancy is shown. In the specific eruptive fevers, also, it is well known that epidemics differ widely and that such a disease as scarlet fever, for example, may prevail in so mild a form as to be shorn of its terrors. If these are germ diseases, it is difficult to account for the wide differences exhibited in the character of different epidemics, except upon the supposition that the germ is subject to modifications as regards its pathogenic power.

In the case of the bacillus of rabbit-septicæmia which has been found in various parts of the world in putrid material—beef-infusion, etc.—the evidence of pathogenic power as regards this very susceptible animal, would be wanting but for our laboratory experiments; for the habits of rabbits, in a state of nature, do not bring them in contact with putrefying material. But domesticated fowls are often brought in contact with such material, and it is well known that local epidemics of fowl-cholera occur most frequently among fowls which are subject to insanitary influences, and especially to over-crowding and filthy surroundings. It seems extremely probable that epidemics of fowl-cholera may be developed *de novo* as a result of such insanitary conditions, because the germ is a common and widely distributed pathogenic organism. In like manner we may suppose that epidemics of typhoid fever, of yellow fever, and of cholera, may be developed within the area of endemic prevalence of these diseases—*i. e.*, where the germ is indigenous—independently of transmission by human intercourse or fomites. This is a very different matter from the *de novo* development of the germ, or the transformation of a harmless microorganism into one having specific pathogenic power.

[1] Wernich, die accomodative Züchtung der Infectionstoffe. Kosmos, iv. Jg., Heft 8 (Nov. 1880).

[2] Mitth. a. d. k. Gesundheitsamte, Berlin, 1881, i. pp. 108–114.

[3] Proceedings of the Royal Society, London, No. 221, 1882.

[4] This statement is no longer correct. Pasteur has demonstrated a progressive virulence in the virus of hydrophobia when this is transmitted through a series of rabbits. This is shown by the gradually diminishing period of incubation, which has been reduced from fifteen to six days.

MEDICAL PROGRESS.

SALOL, A NEW ANTIRHEUMATIC AND ANTISEPTIC.—VON NENCKI and SAHLI have discovered and made use of a new combination of salicylic acid, which presents certain advantages over the salts at present in use. In the new compound the acid is chemically combined with phenol, and forms a white, tasteless powder, nearly insoluble in water, but quite soluble in alcohol. Experiments show that this compound, called salol by Nencki, is unaffected by gastric digestion, but is, in pancreatic digestion, decomposed into its component parts, which are absorbed and excreted unchanged. Under its use the urine becomes very dark, but no disagreeable constitutional effects are produced. Sahli has himself taken the drug in doses of from 90 to 120 grains without producing ringing in the ears, and in other individuals experimented upon this symptom was always less marked than in the case of an equivalent amount of the ordinary salicylic salts.

The efficient dose is found to be thirty grains, given three or four times daily. Thus administered, its effects in acute, subacute, and chronic polyarthritis and muscular rheumatism were found to be fully as advanta-

geous as those of the exhibition of sodium salicylate, while the fever appeared to be more rapidly diminished.

A case of chronic urticaria, which had resisted treatment for several months, was rapidly cured by this agent, as were also several cases of supraorbital neuralgia.

The fact that the urine of patients thus treated remains unchanged, even when kept at body temperature for weeks, suggests the possibility of the usefulness of this treatment in vesical catarrh.

Nencki has obtained good results from the local application of the drug in ozæna, otorrhœa, and gonorrhœa.—*Wiener med. Presse*, May 9, 1886.

A CLEANLY AND ECONOMICAL METHOD OF APPLYING OINTMENTS.—At a recent meeting of the Manchester Medical Society, DR. BROOKE exhibited a number of ointments, prepared with a solid base, composed of cacao butter, wax, and oil, or lanolin, and cast into the form of sticks ("salve-sticks"). He has found them particularly useful in making applications to the face and hands, since their melting-point being high, they do not run at the temperature of the body, as do ointments prepared with the ordinary bases; and, when dusted over with powder, they are practically invisible. When covered with Mather's, or Seabury's and Johnson's adhesive rubber (waterproof) plaster, they offer a mode of applying remedies to the skin which is more durable than the Unna-Beiersdorf plasters, and less expensive. With this protective covering, they are especially applicable to the treatment of psoriasis by chrysarobin, and possess several advantages over the methods of Pick, Auspitz, and Besnier, in that the fatty menstruum is preserved; they do not need such frequent renewal; they are more readily applied, and do not cause any dragging on the skin and hairs. The fear of staining the clothing is completely removed, and the patient may, moreover, bathe without disturbing the dressing. They are supplied enclosed in small cases, like those used for cosmetics, so that they can be conveniently carried in the pocket. Somewhat similar preparations, which had been since brought out and described by Dr. Unna, were also shown.—*British Medical Journal*, May 22, 1886.

APPLICATION OF EGG-SHELL MEMBRANE IN MYRINGOPLASTIC SURGERY.—PROF. E. BERTHOLD, of Königsberg, has just published (Wiesbaden, 1886) a brief monograph on the use of the membrane found adherent to the shell of the hen's egg in the formation of an artificial ear-drum. This operation, the minute details of which are given in the original, may be regarded as an extension of the method of skin-transplantation practised by the author in 1878. The cases in which the shell-membrane method was used are described in full. For wounds of the membrana covering a large area the author still prefers the operation of skin-grafting.

RECENT INVESTIGATIONS INTO THE CAUSE OF KAKKÉ (BERI-BERI).—The results of the investigations which have for some time past been in progress under the direction of DR. M. OGATA, of the medical department of the Imperial University, into the subject of the *kakké* bacteria, have recently been published in the *Official Gazette* (April 13th), from which we give the following abstract of Dr. Ogata's conclusions based upon a series of long and elaborate experiments:

1. There is a specific bacterium present in *kakké* patients. The bacteria may be cultivated artificially, and may be distinguished from other forms of bacteria by their form, and more especially by their physiological and pathological properties.

2. The bacteria cause symptoms similar to those of *kakké*, either if inoculated in monkeys, young dogs, rabbits, or pigeons, or if given with food to monkeys and dogs.

3. These bacteria produce a peculiar substance, which, when injected into rats, also causes *kakké*-like symptoms, and they often die.

4. Nutrient gelatine with grape sugar becomes acid in reaction during development of the bacteria.

5. An acid substance may be obtained from the nutrient fluid just mentioned. This is soluble in alcohol and ether, and subcutaneous injection of this solution into rats causes paralysis and numbness of the hinder part of the animal.

6. Blood in the body of a patient dead of *kakké* and in the later stage of *kakké* is acid in reaction.

7. This acid substance may also be obtained from the blood mentioned above (6), and this succeeds, too, in causing the paralysis and numbness in rats.

8. The substances productive of the bacteria and these in the blood of subjects dead of *kakké*, and in the later stage of the disease are probably identical.

9. *Kakké* poison appears to enter into the system from the digestive canal.

10, Predisposition to *kakké* appears to be increased by digestive disturbances.

11. The proper seat of *kakké* is in the digestive canal, and especially in the duodenum. The stomach appears, also, to have a share of it.

12. The morbid changes in the various other organs are secondary to the intestinal lesion, and due to the action of the substance produced by the bacteria.

13. The blood of the animals which were experimented on and died from the influence of the bacteria was acid.

14. The substance, which is acid in reaction, and may be extracted by ether, may also be obtained from the urine of the *kakké* patient.

15. The bacteria exist in the fauces and intestinal contents, but not in the urine.

16. Although bacteria different from those of *kakké* have been inoculated in various animals, no symptoms of *kakké* appeared.

From the above statements it appears that *kakké* is a contagious disease, perhaps infected through the digestive canal; that it takes its seat in the canal; and that the morbid changes in the other organs are all secondary to the intestinal lesion.—*Sei I Kwai Medical Journal*, May, 1886.

ENORMOUS DOSES OF BISMUTH IN CHOLERA.—At a recent meeting of the Madrid Academy of Medicine, Señor Sanchez, of the Military Sanitary Service, described his method of treating cholera, which consists in the main in giving huge doses of subnitrate of bismuth—150 grains every half-hour or hour—until the diarrhœa is arrested. The oil of mustard is also employed externally, and a very rigorous diet enforced, even bouillon being excluded.—*The Lancet*, May 22, 1886.

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SATURDAY, JUNE 26, 1886.

RESTRICTION OF RESEARCH.

SOME years since a terrible "mill horror" filled several of our hospitals with a number of sadly maimed sufferers who had jumped from the third and fourth stories to the ground to save themselves from being burned to death. A number were injured so severely that they died at once. In other cases the nature of the accident was perfectly clear, as fracture of the vertebræ, pelvis, etc., and they were cared for according to the nature of their cases. A third class, however, remained. That they were gravely injured no one who had seen them jump or who saw their suffering could for a moment doubt. But what was the exact nature of the injury? The spine was evidently the seat of the trouble, but the precise nature of the accident could only be surmised. But a few weeks since we saw one of these poor victims still complaining of pain and inability to work, yet the most careful examination failed to reveal any perceptible lesion. Probably the patient will die after years of suffering without any post-mortem that will show what evil was done, or, if the lesion be determined, it will be, probably, without a full understanding of the relation of the antecedent causes, or time and attacks of disease since the accident will have so obscured the initial injury that no inference of value can be drawn from the case. What is most urgently wanted is a series of facts as to the later effects from such accidents, effects which must vary with the remoteness of the accident, with the nature of the injury, and the organ injured.

Especially do we need this information in the case of injuries to the spine. Who that has had any large experience in hospital work does not recall many a case of asserted injury received in railway accidents, or in mills, or by falls, etc., in which it was a serious puzzle, after a time, to determine whether there really was any lesion, or whether the patient was not shamming in order to secure the snug berth of the hospital for the winter, or large damages from the employer, or the company. "Railway spine" has come to be an enigma in consultations and the opprobrium of the profession in the courts, one expert declaring, years after the accident, that there were the most frightful after-effects, and another, equally eminent, declaring that he could not discover any ill effect whatever. The trouble lies in the want of exact knowledge. We cannot produce a definite lesion in a definite way, and at a definite time kill the patient and find the precise lesion. Yet upon just such exact knowledge depends our whole systematic treatment of these, at present, obscure cases, and upon the same knowledge depends also the question of the just amount of damages really due to a deserving sufferer, or fraudulently claimed by some arrant rogue, whose reward is made possible only by our ignorance.

We have alluded to these facts at some length on account of the recent arrest and prosecution of a well-known surgeon in Jersey City. The facts have been much distorted by the over-zealous members of the Society for the Prevention of Cruelty to Animals, and by a sensational journal in that city, and then telegraphed all over the country to the great harm of a deserving and faithful student of science.

It was to solve exactly the difficult and serious problems we have above alluded to that Dr. Watson began his experiments. Not in the interests, or at the cost of a rich corporation, but purely at his own expense and wholly in the interests of science and human sufferers themselves, has he prosecuted his researches until now. He arranged an apparatus, by which dogs could by dropped a distance of twenty-five feet, not on to an iron framework which was broken and also supplied with spurs and spikes, but on to a wooden floor, striking at a prearranged spot, and so producing, as nearly as possible, a predetermined lesion. That he was engaged "in breaking dog's backs and then leaving them to die in their agony," as alleged by the paper alluded to, is not only not true but such procedure would have totally destroyed the value of his experiments. To determine whether after a concussion of the spine there would follow at any remote period such symptoms as we see alleged by patients and by claimants in court, it is needful that the back be *not* broken, and that the animals be well fed and carefully tended after the accident; that is to say, that the animals should be placed in precisely similar conditions to their human counterparts.

The experiments were, in the nature of the case, painful, and in part this could not be avoided. But we are assured that, wherever possible, an anæsthetic

was used, and even the veterinary surgeon of the Society for the Prevention of Cruelty to Animals itself declared that "he was satisfied that there was no cruelty exercised."

Needless and useless cruelty we would cordially join in denouncing and in punishing as it deserves. But when an honest effort is being made for the relief of human suffering and the promotion of justice, we must confess that it seems that the sufferings of a few dogs should not be placed in the balance. On the other hand, it is "torture" to a fellow human being to be arrested unjustly, charged with inhumanity, and his name made a by-word of reproach all over the land as a human fiend, to say nothing of the anxious hours and days before the issue of the trial is reached, and the serious expense to which the defendant is put.

We are glad to see that the New Jersey Medical Society, at their session just after the event described, showed that they had lost none of their confidence in Dr. Watson, and passed a strong resolution endorsing vivisection.

A NOVEL SUGGESTION IN ANTISEPTIC TECHNIQUE.

A VERY ingenious method of insuring the absolute cleanliness of the hands before the performance of surgical or obstetric operations has been suggested by BELAIEFF, in the *Centralblatt für Gynäkologie*, No. 19, 1886. It consists in rendering distinctly visible all the minute nooks and crannies of the hands in which may lurk and linger matter possibly or presumably infectious. A further advantage consists in the fact that until these hiding places are absolutely cleansed their presence and locality remain distinctly evident.

The method itself is extremely simple. The blue pigment, aqua marina, is very thoroughly rubbed up with vaseline, and the hands of the surgeon or accoucheur are carefully rubbed with the mixture until it is richly embedded under and around the nails and all portions of the hands are colored with it. It is then washed off with a nail brush, soap, and water. In individuals with smooth, soft hands this is a matter of but a few minutes; when, however, there exist any irregularities of the nails, a quarter of an hour of vigorous brushing may be required before the last trace of blue pigment, as sought for in a strong light, is removed.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

THE wisdom of organizing a special society of clinicians and pathologists was fully demonstrated by the character of the gathering which took place at Washington last week. The successful formation of the Association marks a departure in American medicine, the consequences of which will, we feel sure, be far-reaching and beneficial. In other fields there have been for some time active societies, the work of which has stimulated enormously the cultivation of special branches and tended in no small measure to the development of scientific medicine in this country. The Laryngological, Otological, Ophthalmological, and Surgical Associations have been long enough in existence to convince the most sceptical that the union of men for special study and deliberation is in the highest degree advantageous to our common profession. The formation of the Association of American Physicians completes the circle of these special societies, and will be a meeting ground for the clinicians and pathologists which they have not heretofore possessed.

Though the meeting was primarily for organization, the report which will be found below shows that a rich programme was provided by the committee. The papers and discussions will command general attention, and, with one or two exceptions, were of a character in every way suitable to the occasion. Among them will be found several remarkable and valuable contributions to clinical medicine and pathology. The Association may confidently look to the future, success is assured after such a meeting, and the men in charge are earnest workers from whom the profession of the country may expect an annual contribution worthy of American medicine.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

First Annual Meeting, held at Washington, D. C., June 17 and 18, 1886.

(Specially reported for THE MEDICAL NEWS.)

THURSDAY, JUNE 17TH.—FIRST DAY.

MORNING SESSION.

THE Association met in the Army Museum Building, at 10 o'clock.

The meeting was opened by an address by the TEMPORARY CHAIRMAN, FRANCIS DELAFIELD, M.D., of New York. After a few introductory remarks, in which he said that the object of such an Association as this was not so much to teach as to learn, he took

CHRONIC CATARRHAL GASTRITIS

for the subject of his address. The lining membrane of the stomach consists in part of a mucous membrane, and in part of an apparatus for digestion. So far as the mucous membrane is concerned, it is subject to the same diseases as other mucous membranes, and the same general laws which prevail in all chronic diseases of mucous membranes, as of the eye, the nose, pharynx, larynx, etc., are applicable to it. There may be changes in structure, in function, and in size, and yet, so long as there is no new growth, the membrane may return to a healthy condition; and it must be remembered that severe symptoms may be present without the presence of sufficient change in the mucous membrane to prevent recovery.

The causes of chronic gastritis are very often repeated attacks of the acute disease, the chronic symptoms ap-

pearing some time after the acute attack has passed off. It may follow from venous congestion, as in heart disease, or be brought on like catarrhs of other mucous membranes, by changes in climate. It is also occasioned by individual diathesis, such as rheumatism or gout, by chronic and wasting diseases, as tuberculosis and cancer, it also accompanies various forms of anæmia and exhaustion of the vital powers, and may be occasioned by the ingestion of poisons. It is also caused by duodenitis and by typhoid or malarial fevers, pregnancy, and alcoholism. It is accompanied by changes in function, there may be too much mucus secreted or too little, or the secretion may be wrong in quality.

There is no necessary connection between the amount of pain and the seriousness of the lesions. The symptoms are developed in successive attacks, and the course of the disease is long and irregular, and every year it is liable to get worse. In some cases the patients are uncomfortable during a certain part of each year. In others there is such great pain on the ingestion of even a small portion of food as to lead to the morphia habit; the patient seems unable to eat anything. Instead of severe pain there may be simple uneasiness and discomfort after food. It is hard to distinguish this from pain in the intestine. Not infrequently continued vomiting follows the pain, until the stomach is entirely empty. The nausea is most apt to occur in the morning. The matter vomited may consist of food or large quantities of brownish fluid, mucus, or water. These last are generally connected with dilatation. In some cases there is a great narrowing of the pyloric orifice, causing retention of matter in the stomach and generally accompanied by dilatation. Constipation may depend on this, as may also diarrhœa. There is generally headache and loss of health. Inflammation of the papillæ of the tongue is observed, and there may be abnormal sensations in the fauces. In complicated cases other symptoms will appear.

In most cases the inflammation goes no further than to affect the functions of the glands. A change in the character of the secretion is constantly present. We generally find increase of mucous pigmentation. There is sometimes increase of tissue, and the presence of polypi and constriction of the pylorus. The peptic glands are sometimes affected. We must remember that all gastric symptoms are not due to gastritis—they are sometimes due to anæmia, uterine diseases, and to changes caused by old age.

In many cases palliative treatment is all that can be employed. This is true of those cases dependent on cardiac disease, phthisis, or alcoholism, also when there has been destruction of the glands. These measures are often productive of very great relief. There are other cases, however, which may be cured. In undertaking curative treatment, we must remember that it must be long continued, and that as the patient is liable to repeated exacerbations of the symptoms, the treatment also must be renewed. There are four lines on which treatment may be conducted: 1st, relating to climate and mode of life. 2d, by diet. 3d, by general medicine. 4th, by local remedies applied directly. The most certain of these is the climatic treatment. No rules can be laid down as to the localities to be chosen.

The tastes of the patient may be largely followed, with the proviso that he shall be able to spend a large part of the time out of doors. In order to derive much benefit, however, from this method, the patient must be able to spend either several years at the place or a large part of each year, and this fact alone greatly limits its application.

The diet is always important, but in deciding what diet to give each patient, it is not safe to trust to the patient's ideas as to what does or does not suit him. The only safe method is by experiment. Several hours after eating let the patient's stomach be washed out, in order to see how far the food has been digested. Patients should be well fed, for the stomach does not need rest, as is generally supposed. Artificially digested food and pepsin are unnecessary. Starchy foods are bad. Milk is an uncertain food for adults; sometimes agreeing, and sometimes not. Fruit is good, but the kind of fruit can only be selected by experiment. Meat is generally good. But the diet alone is insufficient for a cure. Drugs often palliate early in the disease, but become of less and less avail as it advances. Dr. Delafield then ran over the usual well-known remedies, such as soda, bismuth, iodoform, etc., and said, if these do not avail, we need not look further.

To those who cannot leave home, local applications are the most useful agents that we can employ. They are applied by means of a soft rubber tube, passed into the stomach through the mouth, and are to be made thoroughly at a time sufficiently long after eating for the stomach to be nearly empty. Warm water alone is the substance most usually successful, though active medicinal agents, such as alkalies or acids, etc., may at times be added with advantage. For the first week of the treatment the diet should be exclusively of milk. This can be borne even by persons who are not usually able to take milk. Afterward one solid meal of meat may be allowed each day. This is gradually increased by vegetables, and finally the other two meals may be added. Expect no improvement for the first week, but it will soon begin. The general health and spirits will greatly improve, as well as the strength. The pain is the symptom which persists longest. The treatment must be continued by the physician himself for two or three months, after which the patient will be able to use the tube himself, and can do it first three times a week at home, gradually decreasing to once a week, when the cure is complete.

THE CHAIRMAN then called for the

REPORT OF THE COMMITTEE ON PERMANENT ORGANIZATION.

The Committee reported a draft of the Constitution and By-laws, which, after a general discussion, were, with a few alterations, adopted as reported.

A committee on nominations for permanent officers was then appointed.

DR. S. WEIR MITCHELL, of Philadelphia, then read a paper prepared in conjunction with DR. MORRIS J. LEWIS, of the same city, on

KNEE-JERK AND MUSCLE-JERK IN DISEASE,

which will appear in *The American Journal of the Medical Sciences*. Dr. Mitchell spoke of the fact that the tendon-jerk is increased if the patient be instructed to perform some voluntary muscular action in a distant part of the body, such as clinching his fist, or, still better, phonating. The same effect will be produced if

a strong impression, such as would be caused by a rhigoline jet on some part of the skin, is produced. In such cases the jerk caused by a blow upon the knee is equal to that observed in cases of extreme lateral sclerosis of the spinal cord. If the belly of a muscle be sharply struck, its fibres will contract, so that we thus have the muscle-jerk, as we have the tendon-jerk. If the connection with the spinal cord be cut off, there is no response on striking the tendon; but the muscle will continue to respond, owing to its intrinsic power of irritability.

The response is a measure of tone. Tone means the steady nerve influence which flows from the spinal column. The tone is increased by voluntary action in a distant part of the body. In every act of the will that causes movement of a certain part of the body, the force does not confine itself to the part directly acted upon by the will, but there is an addition to the nerve force all over the body. This is noticeable in childhood, where we see the individual, in attempting to perform one muscular movement, perform others at the same time. As we grow older we obtain the power of regulating our actions, but even adults are unable to move certain muscles alone. The same facts are often illustrated in disease, as when a patient is asked to close one hand, there is an immediate attempt at closing both, or one leg is moved at the same time. Nerve force flows incessantly to the muscles. A single violent act tones up the system, as in a fight, for example. A torpid bladder will thus act after a cold bath. In cases of enfeeblement this action is less; also on damp days the response is diminished.

He then explained how he had been able to measure by inches the ability of patients to stand with their feet close together and eyes shut, without much swaying. The normal man sways first to the right side, then forward. The first is by measurement half an inch, the second three-quarters of an inch.

What is needed is some test to show the first beginnings of spinal disease. Strabismus and knee-jerk, early as they occur, are too late. The arm is a far better part to study, as the lower extremities are attacked first.

He then showed a table divided, according to the patient's power of standing, into five divisions. In the first class, where their standing was normal, the muscle- and tendon-jerk was normal, and the reinforcement normal; in the second and third class the jerk was irregular, sometimes normal, sometimes increased, sometimes diminished; in the third there was no reinforcement; in the fourth the jerk was decided, but no reinforcement; in the fifth both were lost. Chin-jerk was sometimes normal, and sometimes absent.

Associated movements were noticed—*i. e.*, the involuntary action of one part of the body accompanied the voluntary action of another part. Hearing was generally lessened. Prominence of the eyes, a new symptom, was observed in a certain proportion of cases.

DR. E. C. SEGUIN, of New York, considered the action described under the names tendon-jerk and muscle-jerk to be caused by reflex action, as contradistinguished from voluntary action. He doubted the correctness of the explanation that the reinforcement of the jerk by distant muscular movement is on account of an increase of the tone due to volitional action. The explanation he would give would be that the voluntary action had the effect of inhibiting the cerebral influence, and that thereby the spinal influence was increased. This view is supported by the fact that the jerk is increased in cases where part of the cortical substance of the brain is destroyed, and also in persons suffering from cerebral neurasthenia.

DR. JAMES J. PUTNAM, of Boston, could not accept Dr. Mitchell's conclusion, but thought it a good deal a matter of words whether we say the jerk is due to reflex action or to increase of tone. The method of estimating the station of patient used by Dr. Mitchell is good. He spoke of a method of estimating the condition of the arm. A yardstick is used with a slide. The experiment is to let the slide be placed on a given part of the stick and the patient see it there. Then let him close his eyes and move the slide, and then return it to its original position. His accuracy in replacing it will be the test. A similar experiment may be tried by letting the patient see two chalk-marks on the blackboard, and then attempt to reproduce them in their relative positions with his eyes shut. He asked, in conclusion, whether the associated movements spoken of by Dr. Mitchell were not similar to choreic movements observed in some subjects when their eyes are closed.

DR. H. C. WOOD, of Philadelphia, said that the difference is not a matter of words, but depends on our physiological ideas as to whether there are two kinds of action in the striated muscles, viz., voluntary and reflex, or whether there are three, viz., these two and an action originating in the muscles or the nerve-endings in muscles. He himself believed in the latter theory. He referred to the fact that under certain poisons the response of the muscle is altered. Thus in a veratrized animal the response is very different from that observed in a normal animal. It is, of course, possible that the third class may be affected by cerebral inhibition, as Dr. Seguin had said, but of this there is no proof.

DR. MITCHELL, in reply, agreed with Dr. Wood. While it is true that most of the facts can be explained on the theory of inhibition, all cannot be. The overflow theory which he had been advocating explained more facts than the inhibition theory. In conclusion, he said that the associated movements are entirely different from the choreic.

DR. F. PEYRE PORCHER, of Charleston, S. C., then read a paper on

TYPHOID FEVER.

He explained that he would confine himself to the therapeutics of the disease, and chiefly dwell on his own experience. Although he had had an extensive experience in hospitals, he would confine himself to his private practice. It is of the first importance to be able to secure a low rate of mortality from typhoid fever. It is a great mistake to trust simply to statistics of the death-rate following any prescribed course of treatment. This is specially true of hospital statistics. They are, in typhoid fever, untrustworthy, as the patient is apt to come in at an advanced stage of the disease, and there are a variety of other causes which serve to vitiate the returns. In all cases, the surrounding circumstances of each patient must be taken into consideration in order to weigh the value of the statistics. He considered that the plan of treatment he had adopted was worthy of

careful consideration, inasmuch as he had lost but three cases, which amounted to a fraction over nine per cent. of all he had treated. A mortality of less than ten per cent. may be considered a standard of excellence in typhoid fever.

He had observed that all fevers are ushered in by costiveness; there is apt also to be a certain amount of anxiety in the patient's mind—it is possible that this may, in nervous cases, cause diarrhœa, though he had not noticed it; but it is sufficient generally to cause a dryness in the mouth. That anxiety has this effect is well known, and is made use of in India for the detection of theft: suspected persons are given dry rice to chew and spit out; the rice is afterward examined, and the guilty person detected by the dryness of the rice which he has chewed. A mild laxative at the commencement of the disease, preferably a mercurial, is generally useful. Stimulants are important for temporary support where there is much exhaustion; as high temperature is an element of extreme danger, antipyretics internally and externally are most important. The method he uses externally is to apply ice-cold water to the head, hands, and arms systematically. He applies a soft towel, soaked in the water, to the head, and frequently changes it. By another towel the ice-water is sprinkled on the arms; sometimes the hands and arms may be immersed. This should be continued fifteen, twenty, or thirty minutes at a time, or until the surface is cool. The advantage of this method over the wet pack or cold bath is, that it is easily used and not liable to abuse. It is not opposed to popular feeling as are the other methods, and will be therefore willingly applied by the attendants and submitted to by the patient. It is very effective in all cases of continued fever in reducing the temperature. In malarial fever he has seen it bring down a temperature of 107° and 108° F. Sponging the lower extremities with alcohol and water is sometimes very soothing. Besides the sponging, he uses a fever mixture containing sweet spirits of nitre, aconite, spirits of Mindererus, and acetate of potash, which he has found most effective.

In cases complicated with malaria, he makes use of quinine and arsenic, but does not endorse the large doses of quinine frequently given. His experience is that the alkaline treatment is indicated in the early part of the disease, and that acids are more valuable later. Sordes on the tongue and delirium are ndications for free stimulation; in delirium he has also found cantharides to the back of the neck very useful. In treating the accidents occurring in the course of typhoid fever, the employment of turpentine, inwardly and externally, is the best remedy for tympanites. It is a general and special stimulant and styptic. Rubbed up with mucilage and given in connection with the carbonate and muriate of ammonium, it is invaluable in the broncho-pneumonia which may occur in the course of typhoid fever. In this condition he uses with great advantage cotton-batting with oiled silk to cover the entire chest. When albuminuria occurs, he administers quinine and tannin in doses of two grains each three times a day. For nausea, he employs small doses of ipecac. He has seen carbolic acid and tincture of iodine reduce the temperature, but has no reason to believe that they have any influence in cutting short the disease.

DR. JAMES TYSON, of Philadelphia, said that he had found that where it was necessary to keep up a continued antipyretic effect the purpose was best subserved by the use of cold water externally. This he applied by means of towels dipped in ice water and wrapped about the trunk of the patient. Antipyrin is good, but it causes chilliness and chattering, which have a bad moral effect on the patient and his attendants, and small doses soon lose their effect. He had employed thallin in four grain doses with the effect of reducing the temperature two and a half degrees in half an hour; but with the same objectionable chilliness and chattering following. The same medicine had been repeated in half the dose with the same good result and without the unpleasant effects, but its influence was very transient. All these points were illustrated in a case which had recently came under his observation which he related. He considered antipyrin and thallin invaluable for the reduction of temperature except in cases where a continued antipyretic influence is required, and then he prefers the external use of cold water.

DR. J. T. WHITTAKER, of Cincinnati, considered elevation of temperature nature's remedy to get rid of the cause of the disease. It is now pretty clearly demonstrated that the disease is caused by a bacillus. We must attribute changes that occur in the disease to the cause and not to the heat of the body.

DR. F. T. MILES, of Baltimore, called attention to the fact that in some cases the disease runs its course with a normal or even subnormal temperature.

DR. E. DARWIN HUDSON, of New York, believed the best method of treatment is in many respects a negative one, the poor are more likely to get well than the rich. The treatment he endorsed consisted in sponging the body every two hours with water whenever the temperature rose to 102° F. He keeps the patient with a rubber cloth under him and a wet sheet above him. It is his custom to employ an exclusively milk diet, which he considers of itself of wonderful value, and continues it on into convalescence.

DR. S. C. CHEW, of Baltimore, said he could hardly consider that the treatment ust described was negative, since, although Dr. Hudson did not employ ice water, the temperature of the water was still lower than that of the body. Antipyretic treatment is extremely important even though the bacillus theory be admitted. He considered quinine, given hypodermically, almost a specific as an antipyretic, having far more influence administered in that way than when given by the mouth, just as morphia has a more positive effect when administered hypodermically. He uses quinine in the form of the hydrobromate so prepared that twenty minims represent four grains.

DR. FREDERICK P. HENRY, of Philadelphia, said that having read reports of the very remarkably favorable results from the use of Labbaraque's solution, he had tried it in twenty-six cases at the Philadelphta Hospital, and lost four cases, which was a very high percentage. He had also more relapses from its use than is usually observed. He thought the high claims put forward for certain special methods of treatment often misleading. Referring to Dr. Chew's remarks on the value of quinine hypodermically as an antipyretic, he said that he could readily understood that its effect might be increased by that method of employment.

We know it is the case with bichloride of mercury, that its action in certain syphilitic skin diseases is greatly intensified by being administered hypodermically.

DR. W. H. DRAPER, of New York, believes that nothing is more fallacious than mortality statistics in typhoid fever, as false cases are often reckoned in and so vitiate the result. Cases where a high temperature is not reached should not be considered. It is very easy to overestimate the value of antipyretics in typhoid fever and continued fevers generally. Where there is continued hyperpyrexia the cases generally prove fatal in spite of antipyretics. The value of this class of drugs is that they contribute to the comfort of the patient. They do not materially lessen the death-rate.

DR. WILLIAM PEPPER, of Philadelphia, said that he wished this Association would turn its attention to the collection of carefully prepared statistics on this subject. He quite agreed with those who claimed that in this disease hospital statistics are worthless. This Association is in a position peculiarly fitted to undertake such a task. Every physician will have what might be termed a run of luck in his practice. For a considerable period most of his typhoid patients recover. This will be followed by a run of cases with a large mortality. For himself, he did not consider a death-rate of from ten to fifteen per cent. much below what it would be if no special treatment was instituted, and, therefore, thought that arguments based on methods of treatment showing such a result, fallacious. He believed it a mistake to consider temperature as of great importance in the treatment of typhoid fever. He insisted upon the value of absolute rest and rigid diet. Abstraction of heat is important. Some remedy should be given addressed to the intestinal canal. He could not say which was the best, but his preference was for the salts of silver. Where cases come under care early he did not think that a mortality greater than six per cent. a satisfactory result in private practice.

DR. PORCHER, in conclusion, agreed with Dr. Tyson in his method of treatment on theoretical grounds, but practically it is very difficult to carry it out. In order to wrap wet towels around the trunk of a patient we must remember that it required him to be moved. In typhoid fever, the patient is generally in a very weak condition. Then there is the difficulty of keeping the bedclothes, etc., dry, and we have, as a rule, to combat the strong objection of the patient and his attendants. All these objections were met in his method, and the results were as satisfactory. He was surprised no one had spoken of the value of the fever mixture he had mentioned. How any practitioner could treat typhoid fever without it or something equivalent to it, he did not understand. Some had spoken of the disease running its course without fever. This must be considered as one of the rarest occurrences.

AFTERNOON SESSION.

DR. JAMES TYSON, of Philadelphia, opened the discussion on the question,

DOES THE PRESENT STATE OF OUR KNOWLEDGE JUSTIFY A CLINICAL AND PATHOLOGICAL CORRELATION OF RHEUMATISM, GOUT, DIABETES, AND CHRONIC BRIGHT'S DISEASE.

He stated the prevailing views as to what constitutes each of thase diseases.

1. *Rheumatism—i. e.*, articular rheumatism—is a general disease with acute or subacute inflammation of the articular and periarticular tissues in a person possessed of a tendency, hereditary or acquired, thereto. No *materies morbi* that can be held responsible for the disease has been isolated, though there probably exists one. The products of the inflammation are in no way specific.

2. *Gout* is also a general affection with arthritis, especially of the smaller joints. A tendency is likewise necessary for this. Undue accumulation of uric acid in the blood is conceded by most to be responsible for the symptoms. The arthritis is more or less constantly associated with deposits of sodium urate in the joints.

Diabetes mellitus is more difficult to define, but there are at least two quite different varieties pathologically. In both there is a deranged function of the liver, as the result of which the cells are unable to dehydrate glucose into glycogen, but permit it to pass as glucose through the portal vessels, and thence into the general circulation. This is brought about in the milder cases by an over-ingestion of saccharine and amylaceous food, causing exhaustion of the glycogenic function. This form is easily curable by dietetic measures. In the more severe form, which may be termed the neurotic or neurologous form, the dilatation of the hepatic bloodvessels and accelerated movement of the blood are caused by a lesion in a distant part, very frequently in the cerebro-spinal or sympathetic systems. This form is benefited but not cured by dietetic treatment. In many of these cases careful autopsies often fail to discover any lesion.

Bright's disease: We must include here both the interstitial and parenchymatous nephritis, as the former occurs in connection with gout and the latter with rheumatism.

Both rheumatism and gout are arthritic affections, and an essential part of each is an inflammation of the joints, although not joints of the same class. The changes in the joints in rheumatism are not specific, but those in gout are. There is no excess of uric acid or lactic acid in rheumatism, Latham's theory to the contrary notwithstanding. The presence of uric acid in the blood in gout is generally conceded. Heredity, though operative in both rheumatism and gout, is far more operative in the latter. Gout affects those in latter life more generally, while rheumatism is a disease of younger life. Alcoholic liquors, which have no influence on articular rheumatism, are all powerful to produce gout. Insufficiency of food is an etiological factor in rheumatism, but the reverse is true of gout. The rarity of kidney disease in rheumatism and its frequency in gout is a point to be considered. A gouty endocarditis is nothing like so frequent as one of rheumatic origin. Again, the skin diseases which are so frequent in gout are not so in rheumatism.

The causes of rheumatism are cold, exposure, etc., while for gout these are not the causes, but a peculiar substance in the blood. Gout also is brought on by errors in food and drink. Atmospheric influences and injuries may be the exciting causes of the attack. If we turn to therapeutics we find that salicylic acid, which is the best remedy for rheumatism, is also useful in gout, but for rheumatism it is almost a specific, as

quinine is for malaria, while in gout its effect is readily understood. It has a direct effect upon the glycogenic function of the liver. It increases the amount of urea in the urine and diminishes uric acid. But with the exception of salicylic acid, the remedies for gout and rheumatism are not the same. Remedies addressed to the liver which are useful in gout, are of no avail in rheumatism, and may even aggravate it. Gout needs eliminative measures, rheumatism constructive. On account of these considerations, we must deny the identity of the two diseases.

The association of gout with contracted kidney is frequent, and here a relation must exist. Uric acid, by its irritating properties, is one of the many causes of contracted kidney. Dr. Tyson illustrated this by the relation of a case.

The relation between gout and the milder form of diabetes is a difficult question. In both the specific gravity of the urine is high. But in gout this is caused by the presence of uric acid and the urates, while in diabetes the amount of water is increased and the uric acid is not increased. It is said that urine in gout and lithæmia has been found to contain sugar. But this statement is made owing to an error arising from the fact that uric acid causes deposits of copper salts. Since Dr. Tyson has ceased using copper salts in testing the urine of gouty patients for sugar he had ceased to find evidences of it. It has been urged that the diet that is good for glycosuria is also good for diabetes. This is true, but the reason for it is different. In gout the indigestion of food is caused by the want of power in the digestive ferments. In diabetes, as has been above explained, the cause is different. On the whole, however, although some of the arguments are wrongly made there is a correlation between gout and the milder form of diabetes, but the relationship is more pathological than clinical.

But the case is different when we come to consider the relationship between the neurogenous or neurotic form of diabetes and gout, for there the cause of the diabetes is not in the liver but in the nerve centres. Diabetes and albuminuria are supposed to be very frequently connected, but the connection is by no means constant in the earlier stages.

There is a true correlation between gout and chronic Bright's disease, but not so in the case of diabetes. Salicylic acid has been found useful in one form of diabetes. The cases where good results have been obtained from its use, however, have been those where diabetes and rheumatism have existed together in the same subject.

In summing up, he said that the conclusions he had arrived at were—

1. Gout and rheumatism resemble each other in that each has a *materies morbi*. But this is not the same for both diseases. The *materies morbi* of gout has been discovered, that of rheumatism is still obscure. But each disease has its own poison.

2. On comparing gout and diabetes in its milder form we find that the liver is affected in both, but in the former case the digestion of the hydrocarbons is at fault, while in the second the power of converting glucose into glycogen is diminished or lost.

3. There is no correlation between gout and severe diabetes.

4. Between diabetes and acute rheumatism there may perhaps be some connection.

But pathology or clinical medicine at the present time fails to show any true correlation between the diseases in question. One of them may be antecedent to the other in the same person, but this does not establish the causal relation between them.

DR. WM. H. DRAPER, of New York, said that we must presume that, however far pathology may be from finding any true correlation between the diseases in question, the very fact that the question had been raised, showed that there must have been something in clinical experience that suggested their relationship. There are investigations in vital chemistry the results of which seem to point to this conclusion, but as yet it would be premature on pathological grounds definitely to decide the question.

As co-referee, he considered the question from a clinical standpoint, and the first step would be to define the sense in which he would use the terms.

1. *Gout:* by this we mean not only an arthritic disease, but a diathesis, which, by changing the nutrition, causes the appearance of a variety of affections.

2. *Diabetes:* the more common and less severe form in which there is an inability to digest food-sugars.

3. *Rheumatism* covers the acute and subacute varieties in which diagnosis from the gout is difficult.

4. *Albuminuria:* that form characterized by the contracted kidney.

Gout, diabetes, rheumatism, and chronic Bright's disease are frequently associated, sometimes in the same person, sometimes in a family; the latter is quite common. They may all exist distinctly in the same person. The question is, Do these facts show that these diseases are correlated? The first clinical fact is heredity; testimony shows that glycosuria has often a gouty ancestry. We must distinguish mild glycosuria from the graver form of diabetes, though this may follow the milder. Even the graver form may have a gouty ancestry. Heredity is not so evident between gout and rheumatism, though acute rheumatism frequently occurs in the children of gouty parents. These cases present all the clinical evidences of rheumatism. Of course, heredity cannot be pleaded in respect to non-allied diseases, but in the present case the analogy is singular. Besides this we must remember that the milder forms of rheumatism are not to be used to estimate heredity. On the other hand, Hutchinson tells us that crippling and gonorrhœal rheumatism recognize a gouty ancestry. Chronic interstitial nephritis is observed in gouty families. These diseases are associated with similar nutritive changes. Physiological investigation shows diminished power of digesting the carbohydrates. The intolerance of these in gouty subjects has been too much overlooked. The connection one with another as shown by treatment is strong, the administration of alkaline salts whether in mineral water or not is important in all. The reputation that various springs in Europe have in the treatment of all these disorders would seem to indicate a connection between them, though their value is not so great in rheumatism. Besides this, salicylic acid, which is so valuable in rheumatism and gout, and also, though in a less degree, in diabetes, suggests the same idea. All these considerations are open to criticism, but they inevitably excite a suspicion of an alliance between the diseases.

Pathologically, however, they must each still be considered more or less distinct and specific.

DR. J. T. DANA, of Portland, Maine, asked whether it would not be well to extend the question under discussion so as to include rheumatoid arthritis. The differentiation between this and gout and rheumatism had been fully made out by Dr. R. P. Howard, of Montreal, Does not this affection require correlation with the others mentioned in the question as much as any one of them?

DR. E. G. JANEWAY, of New York, thought it necessary to be very careful how we take the opinions of English authorities on the subject of the hereditary influence of gout, for the English are a gouty people and, therefore, to English observers gout might seem to have a relation to diseases that are in no way allied to it. The same apparent relation is not found if the history of people of other countries is examined. He called attention to the fact of the great prevalence of diabetes among the Hebrews, while gout is not frequent among them. This would not be the case if the conclusions of English observers were correct. In the examination of diabetic urine for albumen, we must remember that in a certain proportion of cases its presence does not denote renal disease, but may be due to the presence of mucus secreted by the mucous membrane of the bladder and meatus irritated by the excess of uric acid.

DR. FREDERICK C. SHATTUCK, of Boston, corroborated Dr. Janeway's statement of the frequency of diabetes amongst Hebrews.

DR. ALFRED L. LOOMIS, of New York, said that pathologically the diseases are not directly correlated, but clinically it would be difficult to divest one's mind of the idea of correlation. The clinical connection between them is so striking; they touch each other in so many points, and they so often coalesce, that one is almost compelled to admit their close relationship. Dr. Loomis related a case of a man, sixty-three years of age, who was first attacked with gout at the age of forty-two. The attacks recurred at intervals till he was sixty. Frequent examinations of his urine gave negative results except that there was a high specific gravity and a quantity of urates. After a severe attack in his sixtieth year sugar appeared in his urine. This continued for six months, when it disappeared, and since then albumen has been present. Another case was that of a man, sixty-five years of age, who had had frequent attacks of gout and rheumatism for ten years. Between the attacks sugar was found in the urine, but was absent during the attacks. Albumen was at times noticed, but it was not constantly present. During this period he has had gradually increased arterial tension and cardiac hypertrophy. During the last six months the tension has diminished and the hypertrophy has given place to dilatation.

A third case was that of a gentleman who had enjoyed excellent health till he was fifty years of age. At that time, after intense business strain, the urine was largely increased in quantity and sugar was found in it. He was improved by travel in Europe and a restricted diet. He still restricted his diet after his return, but the sugar persisted and increased in amount. In February last, he had a well-marked attack of gout, and in a month after albuminuria appeared, and he now has anasarca.

Such cases are not very unusual, and they lead us to the belief of their correlation. They are constantly alike in the presence of anæmia, cardiac affections, digestive difficulties, and nervous symptoms. Interstitial nephritis and gout are surely correlated; the former is often the last link in the chain. The changes in the vessels of the kidney are due to prior changes in the blood.

DR. H. C. WOOD, of Philadelphia, said that in regard to rheumatism and gout, it was his experience that they are the same disease. It is impossible to make out a clean differential diagnosis between them. In his own family his great grandfather had had gout. He did not know how it was with his grandmother, but all her brothers and sisters had suffered from it. It appeared in the next generation. He himself suffered from chronic rheumatism. Another member of the family had had six attacks of inflammatory rheumatism in as many years, another was attacked for the first time at thirty years of age, and so on. How can pleurodynia be separated from gout? As to the prevalence of gout in England vitiating the observations of English authorities, those books might just as well have been written in Philadelphia, for gout is as prevalent there as in England.

DR. PEPPER, of Philadelphia, thought that the clinical evidence in the case is too strong to be overlooked. We must wait for the revelations of vital chemistry to show us just how these diseases are correlated. In the meantime we must take care not to mistake an accidental for a real connection. Both rheumatism and Bright's disease are so very common that they might readily occur in the same family without correlation. Still the evidence is in favor of their bearing a relation with one another. Dr. Draper had done well to extend our view of the subject of gout beyond the attacks of arthritis to the gouty diathesis. By this means we get a much truer view of the matter in question. In regard to the Hebrews, it is quite true that they are liable to diabetes, but while they are not so subject to the arthritic form of gout, they are to lithæmia. The question of the occurrence of the arthritic trouble rests upon peculiar local conditions. Certain persons are born with a tendency that causes the disease to assume that form.

In rheumatoid arthritis the nervous element is largely prominent. The nervous system may be at the root of, and be the real cause of all these disorders. He did not consider that the theory put forward by Dr. Janeway, that of irritation of the mucous membrane of the bladder and meatus, was sufficient to explain the occurrence of albumen in the urine in diabetes.

DR. JANEWAY explained that he had referred only to a certain class of cases when he made the statement referred to.

DR. A. JACOBI, of New York, thought that the fact that we have to use the term rheumatic arthritis, of itself shows the limitations of our knowledge, beyond which we cannot go. He illustrated the limitation of our knowledge by citing other allied diseases. The transient forms of glycosuria are much benefited by salicylic acid. This drug increases and liquefies the bile, and diminishes the deposit of gall-stones. The people who are affected in this way are often fat, are anæmic, and frequently of the Hebrew race. If these eat and drink too

freely, we not only find a high specific gravity, but sugar in their urine. Sometimes it persists for a considerable period. Between true diabetes of the severe form and true gout, he saw no connection. We must remember that Bright's disease, and gout, also, are very common after forty years of age.

DR. DRAPER, in conclusion, said, in reply to Dr. Dana's question, that he considered rheumatoid arthritis as of gouty origin in the larger signification of that term. We must not accept the statement of patients, that they or their families are free from gout, for the meaning they attach to the term is simply of the acute disease in the joints. They may have lithæmia without this. We have too much limited gout by insisting on the deposit of uric acid in the joints. This is, after all, only an epiphenomenon of the disease. Let us enlarge our definition of gout.

His experience did not accord with Dr. Janeway's as to the prevalence of diabetes among the Hebrews. He had at this time a case of persistent diabetes in a Jewess. The family was gouty, and two of the brothers diabetic. He thought Dr. Wood was correct in regard to the difficulty of diagnosis between gout and rheumatism. He would be glad to hear from any physician present who was always able to diagnosticate between the two. In conclusion, he would add that the correlation between these diseases must yet be determined; their connection is a matter of constant clinical observation.

DR. J. T. WHITTAKER, of Cincinnati, then read a paper on

SPASM OF THE LARYNX IN RICKETS.

He stated that, while the connection between rickets and spasm of the larynx was probably well known to the audience he was addressing, the profession generally in America, as a whole, attach little importance to it. He had come to this conclusion by examining some of the more popular text-books in use in America and England. In contrast to this, he compared the amount of space devoted to this subject in German medical works.

The occurrence of spasm of the larynx in young children is of itself sufficient to excite a suspicion of rickets, even though the other usual signs of the disease be absent or difficult of detection. The spasm is observed more in the earlier stages of the malady, and is more frequent in the acute form with intensity of progress. On the other hand, where the development of the disease is more gradual, there may be no attacks of spasm whatever.

The attempt to settle the pathology of rickets is attended with difficulty. High latitudes and great elevations seem to afford exemption, despite unhygienic surroundings and bad food. Dr. Whittaker was inclined to the view that the disease is to be classed among the infectious diseases. The character of the spasms is tonic and direct. They may occur at any time of the day, and may be brought on by some exciting cause, such as laughing, crying, or swallowing. It is not necessary that there should be any local lesion whatever. The general treatment is best carried out by attending to the rickets; as this improves, the spasms diminish and cease. An illustrative case was given of a male child of a year old, that had been affected with laryngeal spasm for three months. It had been fed with cream since it was six months old; was subject to sweatings, and there was some deformity of the legs. On attempting to examine the throat laryngoscopically, a most frightful spasm came on, accompanied by complete closure of the glottis, and reaching to both extremities and trunk, and amounting to opisthotonos. He thought the child was dead, but it was finally restored. He ordered it to be kept quiet in its baby-carriage and wheeled about, and that it wear only a very light slip which could be easily pulled up or torn off; and gave directions that at the first symptom of spasm, it should be flagellated in front with a wet towel. He put it on a milk diet and ordered cod-liver oil, the hypophosphites, and other remedies addressed to the rickets. The child rapidly recovered. In cases of this kind, he considered that flagellation is the only remedy; tracheotomy would be of no avail, and anæsthetics would be useless on account of the fact that the child is unable to breathe during the spasm, and as soon as it can breathe the danger is over.

DR. JACOBI, of New York, referred to several contributions that he himself had made to American medical literature during the past thirty years, in which he had dwelt very largely and fully on the fact that spasm of the larynx in children generally depends upon rickets. It is seldom in children the result of nasal irritation, since they so often get well without any treatment addressed to the nose. Some have considered the cause to be a hypertrophied thymus gland, but it is difficult to say just what this is, as the gland has often been found enlarged where there has been no spasm. The gland is found enlarged in rickets. The disease may be only a spastic contraction of the larynx, and then simply a crowing sound, sometimes ending in a convulsion, is observed. When the spasm is fully developed it is generally only the second stage of a temporary paralysis. The child will be first excited then paralyzed; unable to breathe, it becomes pale and blue and may die. If not, the spasm will end with a crow. Rickets is the cause of forty-nine out of fifty such cases. In most of them the cranium is found as full of blood as the other bones. There may be meningitic effusion and the encephalic hyperæmia is the immediate cause of the spasm. Hygienic treatment is of the greatest importance. If you have six weeks in which to act, the child will almost certainly recover; but it must be remembered that at any moment during those six weeks it may die in a spasm of the larynx.

DR. OSLER, of Philadelphia, said that whatever might be the case with English text-books, he could testify, from personal experience, that the close connection between rickets and spasm of the larynx is strongly emphasized in the English schools.

DR. PEPPER, of Philadelphia, related the case of a baby nine weeks old suffering with whooping-cough, who had on several occasions been so deeply asphyxiated as to be apparently dead. A very small amount of nitrite of amyl had relieved and cured the child. It was first used pure, afterward in the proportion of one part of amyl to nine parts of sulphuric ether.

DR. JACOBI thought the good effect in this case was caused by the diminution of blood pressure in the brain, just as nitroglycerine has been found useful in subduing the inflammation in hydrocephalus.

DR. WHITTAKER, in conclusion, stated that he had

not omitted to read Dr. Jacobi's articles. Without a knowledge of these no one could be considered acquainted with the literature of the subject. Whatever may be the views of English physicians, their text-books do not lay stress on the connection between rickets and spasm of the larynx. He did not understand how nitrite of amyl had answered in Dr. Pepper's case unless it had been by diffusion, as the patient was not breathing.

DR. E. T. BRUEN, of Philadelphia, then read

NOTES ON SOME CASES OF DIAPHRAGMATIC PLEURISY.

The diagnosis is often only established at the post-mortem, since the process is often latent and frequently possesses few distinctive physical signs. Primitive pleurisy of this part of the pleura he considers rare. It is oftener a complication attendant upon acute inflammatory processes in the adjacent pulmonary lobes, the costoparietal pleura, or in the liver or peritoneum. Such invasion of the diaphragmatic pleura may be characterized by special symptoms entitling one to designate this class of cases as acute inflammation of the diaphragmatic pleura.

Again, it may be a subacute or chronic process, developed in consequence of contiguous subacute or chronic inflammation, or malignant growths. In such cases the process in the diaphragmatic pleura may become specialized by symptoms which should differentiate the diaphragmatic pleurisy from the associated pathological changes.

In its acute form many of the symptoms may be masked by the greater importance of the primary disease.

A case of croupous pneumonia of the right lung, complicated on the fifteenth day with diaphragmatic pleurisy, was related. The diagnosis was confirmed by autopsy on the twenty-fifth day after the illness commenced. The patient was delirious, yet many of the characteristic symptoms were present in this case.

Enlarged liver, or intestines distended with gas may mask the lesion by interfering with the movement of the diaphragm, and thus simulate an important symptom of diaphragmatic pleurisy. Diaphragmatic pleurisy is generally right-sided; the termination of acute cases will largely depend upon the associated diseases. In primary cases recovery is possible. Diaphragmatic pleurisy may progress to a marked degree without diagnostic symptoms, and a case illustrative of this was related. In subacute or chronic cases special symptoms are more conspicuous than in many of the acute forms.

The diagnosis of this disease must necessarily be difficult. Autopsies show that the process can exist in an advanced form, at least on one side of the diaphragm, without special symptoms. If diaphragmatic pleurisy complicate any form of pulmonary disease, or pathological process in the liver, or circumscribed peritonitis of the superior part of the abdominal cavity, the occurrence of respiratory distress disproportionate to those conditions, would point to the possibility of its existence. More important diagnostic symptoms are: Subjective sensation of pain over the zone which borders the diaphragmatic plane; pain on pressure one or two fingers' breadth from the middle line on a level with the tenth rib, or at the intersection of a line drawn from the osseous part of the tenth rib and one drawn along the sternum. The pains may be constant but also paroxysmal, or evoked by pressure, by deep breathing, irritation of the diaphragm, swallowing, vomiting, or pressure of distended abdominal organs. There may be pains around the chest and upper abdominal zone; fixation of the diaphragm, and the enforced thoracic character of the breathing, are important signs. The respiratory murmur is generally either feeble or absent near the diaphragmatic zone. Dry or moist friction râles may be heard along the convex surface of the diaphragmatic pleura. Dulness on percussion may be present, but a tympanitic sound is more frequent. The patient may bend forward with hypochondriac retraction and epigastric hollowness, but he often lies on his back. Respiration is often, but not uniformly, greatly increased; cough and hiccough are variable signs. There is oftener a thickening of the pleura with adhesions than much fluid exudation. Differential diagnosis must be made between this and costoparietal pleurisy, processes in the liver, pulmonary lobes, or pericardial sac; also, perihepatatis and circumscribed peritonitis, gastric ulcer, and gall-stone must be excluded, as well as rheumatism of the diaphragm and chronic pericarditis. The prognosis depends upon the intercurrent pathological processes, and the powers of adaptation of the pulmonary system are so great that the duration, even of double diaphragmatic pleurisy, may be indefinite.

DR. T. MITCHELL PRUDDEN, of New York, then gave a

DEMONSTRATION OF BACTERIAL CULTURES FROM A CASE OF MYCOTIC ENDOCARDITIS IN A MAN, AND OF SPECIMENS SHOWING THE EXPERIMENTAL PRODUCTION OF THE DISEASE IN RABBITS.

This demonstration, he said, was in the nature of a preliminary communication on some experiments not yet quite completed. The presence of bacteria has been for some time observed in the cardiac and in the peripheral lesions of certain cases of malignant ulcerative endocarditis. The organisms are for the most part sphærobacteria, and the embolic lesions, when such exists, usually harbor similar forms. But it must be remembered that even when extensive ulcerations have taken place the bacteria may not be present. The gross signs are very deceptive. After quoting authorities Dr. Prudden stated that out of eleven cases which he had carefully studied within the past four years, with the improved method of staining, only four showed the presence of bacteria.

The only case of malignant ulcerative endocarditis from which he had been able to isolate and study the living bacteria, was one of pyæmia following an operation for club-foot. In this case there was a moderate degree of old thickening of the mitral and tricuspid valves, while superimposed on this were fresh ulcers with necrotic bases and red and white thrombi. There were multiple abscesses in the kidney, softened impactions in the liver and spleen, and infecting emboli in the brain. All these lesions harbored large numbers of sphærobacteria. Dr. Prudden had succeeded in isolating these living organisms, and described how they are cultivated. Subcutaneous injections of the pure cultures in rabbits produced abscesses. Peritoneal and pleural injections caused illness, but all the animals ultimately recovered.

By accident a colleague of his was inoculated in the finger. An abscess was the result, with considerable constitutional symptoms and general swelling and tenderness of the lymphatic glands. The abscess being opened, discharged about an ounce of pus, from which the same bacteria were readily cultivated. The bacterium just described is the *staphylococcus pyogenes aureus*.

Dr. Prudden then briefly described the results obtained by European observers, and the methods he himself had employed. It has been found that it is possible to introduce a glass rod into the aorta of a rabbit, push it down to the aortic valves, and punch a hole in one of the cusps of the valves, without any other local reaction beyond an occasional slight deposit of fibrin about the puncture. If done antiseptically and the wound closed at once, the animal recovers in a few hours, and lives on indefinitely. A murmur is at once produced. If pure cultures of the staphylococcus pyogenes aureus be injected into the ear-vein of a rabbit in considerable quantities, death usually follows, and we find multiple abscesses in the spleen, liver, kidneys, and sometimes in the heart-wall and lungs. But endocardial lesions are not produced; but if an injury to the endocardium be first produced, as above described, lesions similar to those of malignant ulcerative endocarditis are found at and near the seat of injury. Lesions are also found in the carotid and the aorta when these have been injured by the probe. Abscesses in the liver, spleen, kidneys, and heart are the most frequent peripheral lesions. Dr. Prudden had varied the preliminary operation by arming the point of the probe with a fused mixture of silver and potassium. By covering these with a thin coating of sugar, and passing it down the right jugular vein, the point of the probe may be brought to any desired position before the sugar dissolves, and the caustic may be rubbed against the endocardium at any point of the right auricle or ventricle. A small thrombus usually forms at the point of contact with the silver salt; the bacteria are found in it. The peripheral lesions are similar, except that hemorrhages and abscesses of the lungs are more frequent. He then proceeded to describe the experiments of European operators with the similar bacteria, and with the coccus sepsis of Nicolaier, the bacillus pneumonide of Friedländer, and the streptococcus pyogenes and staphylococcus pyogenes albus.

The results were: 1. That by the intravenous injection of either of these species, or a mixture of them, into the rabbit after an injury to the pericardium, lesions can be induced strictly analogous to those found in malignant ulcerative endocarditis in man. 2. That the coccus sepsis of Nicolaier will, under similar conditions, produce similar effects. 3. That the bacillus pneumonide of Friedländer, and micrococcus tetragenus, under the same conditions do not produce similar results.

Finally, Ribbert has shown that a preliminary mechanical injury to the endocardium is not indispensable to these results. If from a potato-culture part of the potato be scraped off with the bacteria and injected, fragments of the potato seem to serve the same purpose as the preliminary injury to the pericardium.

It is to be noted that neither the pericardial injury alone nor intravenous injection of bacteria alone is sufficient to induce the cardiac lesion, but both are necessary.

Malignant ulcerative endocarditis, then, would seem to be one of the forms of pyæmic lesion determined by the predisposing condition of the endocardium.

RHODE ISLAND MEDICAL SOCIETY.

Seventy-fifth Annual Meeting, held at Providence, June 10, 1886.

THE President, Dr. Oliver C. Wiggin, being absent, the Chair was occupied by the VICE-PRESIDENT, DR. HORACE G. MILLER.

The Secretary, Dr. G. D. Hersey, read his annual report, showing the present membership of the Society to be 198.

THE REPORT OF THE TRUSTEES OF THE FISKE PRIZE FUND

was presented. Two prizes, of $200 each, were awarded as follows: (1) To Dr. Charles V. Chapin, of Providence, for the best essay on "Methods of Treatment and Practical Results of Malarial Diseases in New England." (2) To Dr. Hobart Amory Hare, of Philadelphia, for the best essay on "New Methods and Modified Forms of Disease, due to Progress of Modern Civilization in the Last Half Century."

Two prizes, of $200 each, were announced for the ensuing year, to be awarded for the best two essays on these subjects: (1) "Antiseptic Midwifery in Hospital, Dispensary, and Private Practice;" (2) "Membranous Enteritis." These prizes will be awarded according to the provisions of the will of the founder of the Fiske Fund.

THE REPORT OF THE LIBRARY COMMITTEE

was read by Dr. T. Newill, Chairman. Number of books added during the past year, 1037. Total number now in the library, 5630.

BUILDING FUND.

DR. W. R. WHITE submitted the following resolution, which was unanimously adopted:

"*Resolved*, That the Chair be instructed to appoint a committee of five Fellows, to be known as the Building Committee, of which the President of the Society shall be a member *ex officio*. It shall be the duty of this Committee to solicit funds for the purpose of procuring a building, to be used as the headquarters of this Society."

Upon motion of Dr. Leonard, it was voted to transfer $700 from the general treasury of the Society to the Building Fund, *as soon* as the surplus in the treasury will admit of so doing.

VISITING DELEGATES.

The Chair presented Dr. William Ingalls, of Boston, delegate from the Massachusetts Medical Society; also Drs. Henry I. Bowditch, Henry W. Williams, Robert T. Edes, and James R. Chadwick, all of Boston, who were present as guests of the Society.

DR. H. I. BOWDITCH, upon invitation of the Chair, read a paper upon the *Present Attitude of the Profession toward Electicism and Homœopathy*.

THE ELECTION OF OFFICERS

for the ensuing year resulted as follows:

President.—Dr. Horace G. Miller.

Vice-Presidents.—Dr. Albert Potter and Dr. John W. Mitchell.

Recording Secretary.—Dr. George D. Hersey.

Corresponding Secretary.—Dr. E. M. Harris.

Treasurer.—Dr. Charles H. Leonard.

Board of Censors.—Drs. A. Ballou, J. H. Eldredge, J. W. C. Ely, G. P. Baker, S. S. Keene, Benjamin Greene, Eugene Kingman, and Job Kenyon.

Dr. George W. Carr's term of office in the Board of Examiners having expired, he was reappointed by the Chair for a term of five years.

Drs. Samuel L. Caldwell, Jr., John Champlin, George L. Collins, Thomas W. Hayne, Walter L. Munro, and Stephen A. Welch were elected to fellowship.

It was voted to hold the next quarterly meeting in Providence.

PREVENTION OF CONTAGIOUS DISEASES.

DR. H. R. STOVER, chairman of the committee appointed at the last quarterly meeting to memorialize the General Assembly with reference to the granting of money and power for the purpose of checking the spread of contagious diseases, reported that the desired measure was successfully started, and was approved by one branch of the General Assembly, but, falling into the hands of the Finance Committee, it was finally indefinitely postponed.

The Annual Address was delivered by Dr. Wm. H. Palmer, of Providence, on "Heredity, and some Medico-Legal Conclusions therefrom."

The Society then adjourned to Blackstone Hall to partake of the

ANNUAL DINNER,

at which Dr. Wm. R. White officiated as anniversary chairman.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, May 1, 1886.

THE PRESIDENT. F. G. RODDICK, M.D., IN THE CHAIR.

PUERPERAL SETICÆMIA AND ULCERATIVE ENDOCARDITIS.

DR. WYATT JOHNSTON exhibited a heart the valves of which showed an early stage of ulcerative endocarditis. The patient had been confined some two weeks previously and had been perfectly well till the tenth day, when she had a chill and a sudden rise of temperature. There was no pelvic tenderness; no heart murmur. She rapidly grew worse and died. The uterus and vagina were also shown; the latter had a small ulcer near the external opening, which appeared a day or two before death, otherwise both organs appeared to be in the normal condition of that period after delivery. There was some slight inflammation about the broad ligaments. Dr. Johnston also exhibited a slide of the bacilli found. Everywhere the bacilli of puerperal fever were found in abundance. The growths on the valves were especially rich in them, but no bacilli peculiar to ulcerative endocarditis were discovered.

SEVERE COMPOUND FRACTURE OF BOTH LEGS.

DR. SHEPHERD exhibited a patient who last August had suffered from a severe compound comminuted fracture of both legs. The man was a sailor, æt. twenty-eight, and had last August fallen through the hold of his ship, some thirty feet, severely injuring his legs. He was brought to hospital and on examination it was found that the right leg was broken in three places on the middle and lower thirds, and had two large wounds on the anterior surface communicating with the fracture; the largest some two inches in length. The left leg was also broken in the same place as the right and was comminuted; there was a wound about an inch long communicating with the bone. The wounds in both legs were bleeding freely and the man had lost a considerable amount of blood. Both legs were in a bad condition, the right especially having the soft parts much lacerated. Both legs were cleansed with bichloride 1 : 1500, the wounds being thoroughly washed out; then, after some sutures were inserted, and the parts thoroughly dusted with iodoform, the wounds were covered with pads of sublimate jute kept in place with a gauze bandage. Then both legs were put in plaster-of-Paris bandages, openings being left opposite wounds. Next day the man's temperature was normal and he was feeling very comfortable. The dressings were not disturbed for a whole month; at the end of that time they were removed and the wounds were found completely healed, but the bones were still ununited. The legs were again put up in plaster-of-Paris bandages, which were renewed as occasion required.

Dr. Shepherd remarked that he had treated a number of compound fractures in this way with the best results. Once he had to ligature the posterior tibial artery in a case of compound fracture of the lower end of the tibia involving the ankle-joint; the wound healed under a single dressing.

The patient presented showed a remarkably good result: the right leg was firmly united with about an inch of shortening; the left, although there was little shortening, was not yet quite firm, the union still being fibrous. The man was, however, walking about quite comfortably, and able to do light work.

THE DETERMINATION AND CAUSATION OF SEX

was the title of a paper read by Dr. J. C. Cameron for DR. PERCY MATTHEWS, of Morre Factory, Northwest Territory. After giving an interesting historical *résumé* of the chief theories of sex-causation and sex-determination from the time of Hippocrates to the present day, Dr. Matthews directed attention to Frankenhauser's method of determining sex by counting the fœtal heart beats. This theory he rejected, because his own observations failed to support it, and because in observing the pulse rate of a number of children within an hour after birth he found too slight a difference to warrant any conclusions respecting sex. He then criticised at some length Dr. Starkweather's book on the *Law of Sex*, holding, in opposition to the author, that in neither men nor animals can sex be controlled or definitely foretold.

DR. CAMERON, in commenting on the paper, remarked that a series of his own observations made in 1879, 1880, and 1881, seemed to bear out Frankenhauser's theory. The latter diagnosed 50 consecutive cases, and found the

mean fœtal pulse in males to be 124, and in females 144. Steinbach followed with 45 successful cases out of 57, making the mean fœtal male pulse to be 131 and the female 138. Devilliers, in France, and Cumming, in Edinburgh, contested these opinions, and held that the frequency of the fœtal heart beat depended on the size and weight of the child rather than on its sex, being slower in large well-nourished children. The male child being usually the larger, the slower heart beat is thus accounted for. In the New Sydenham Society's edition of Smellie's *Midwifery*, McClintock quotes some observations of Dr. Frank C. Wilson, of Louisville, Ky., which are so similar to Dr. Cameron's, that he tabulated them together as follows. The lowest fœtal heart beat observed by Dr. Cameron was 98, in a large male child:

Fœtal Heart-beat.	Dr. Wilson's Cases.			Dr. Cameron's Cases.			Deduction.
	Total.	Males.	Females	Total.	Males.	Females.	
110–125	37	35	2	15	15	0	Almost certainly male.
125–130	15	13	2	14	14	0	Probably male.
130–134	12	8	4	7	2	5	Doubtful—chances in favor of male.
134–138	7	2	5	15	5	10	" " " female.
138–143	9	2	7	19	3	16	Probably female.
143–170	26	24	2	39	1	38	Almost certainly female.

To secure accuracy, the following precautions should be taken:

1. Observations should be made before or in the early part of labor; never in the second stage, as labor pains accelerate the fœtal heart beat.

2. Several observations should be made, and the mean calculated, for, during the painless contractions of the uterus, an acceleration of 10 to 20 beats sometimes occurs.

Dr. Cameron went on to say that the essential points in Starkweather's *Law of Sex* were as follows:

1. The sperm and germ elements share equally in the determination of sex.

2. Sex is determined by the superior potentiality of one or other.

3. The superior parent or element at the time of fruitful intercourse determines the opposite sex in the offspring.

4. It is possible in the great majority of cases to prognosticate which sex will result from the union of certain parents.

5. The sex of offspring is or might be generally within the control of parents.

Dr. Starkweather's argument is not supported by an appeal to the experience of stockbreeders, many of whom claim wonderful powers, and cite wonderful cases; but it is generally admitted that though it would be much to their pecuniary interest to regulate sex, stockbreeders have little or no power to do so, although they can develop or eliminate other physical qualities to a surprising degree. Though containing much truth, this theory is far from proven; indeed, such an important power as that of regulating sex is probably unattainable, for its possession would be prejudicial to the best interests of the race. Dr. Cameron remarked that the subject is an important one, and would repay careful study, and much light might thereby be thrown upon the obscurities and intricacies of heredity, and substantial progress made toward the prevention and rational treatment of such diseases as gout, hæmophilia, dipsomania, etc.

CORRESPONDENCE.

JEJUNOSTOMY.

To the Editor of THE MEDICAL NEWS.

SIR: In looking over your excellent journal, from which I have drawn pretty largely, as you are aware, I found myself interested in an address by Dr. Senn on the present status of abdominal surgery. I should like to be allowed to point out in your columns that my friend, Dr. Robertson, of Oldham, has not performed duodenostomy, though he suggested to Mr. Southam the performance of this operation, the operation which he performed having been jejunostomy, see *British Medical Journal*, Feb. 21, 1885. At the time when he performed the operation Dr. Robertson supposed himself to be the first who had done it, as he actually was the first in Great Britain. He subsequently discovered, however, that M. Surmay had previously done two operations of the same nature. Following M. Surmay's nomenclature, he styled his operation enterostomy at the head of the paper, a fact which has probably misled those who have subsequently written on the operation. A perusal of the paper will, however, leave no doubt that the operation was jejunostomy, by which name he actually designates it in the course of his communication. I am yours, faithfully,

JAMES NIVEN,
Editor *Manchester Medical Chronicle*.

OLDHAM, May 31, 1886.

NEWS ITEMS.

THE STATUE OF SIR ERASMUS WILSON was unveiled in London on May 24, 1886, with imposing ceremonies.

EFFECTS OF TOBACCO ON THE HEALTH OF MEN OF LETTERS, AND ITS INFLUENCE ON THE FUTURE OF FRENCH LITERATURE, is the theme to be discussed in a series of essays, for the best of which the French Society for the Prevention of the Abuse of Tobacco offers a prize of 1000 francs.

DEATH OF MR. FRANCIS MASON.—Mr. Francis Mason, Surgeon to St. Thomas's Hospital, London, died on June 5, 1886, in his fiftieth year. He was chiefly

known to the profession as an authority on the plastic surgery of the face, and performed staphylorrhaphy with great success and dexterity.

FLIES AS DIAGNOSTICIANS.—*The Sanitarian* relates a case in which a rat had died under the floor of a large drawing-room, and was giving great offence to the owner of the house, who had had the carpets and furniture removed preparatory to taking up the floor. An ingenious friend drops in, suggests that the doors and windows be shut, steps out to the stables and traps a couple of blue-bottle flies, and returning, sets them free in the apartment. The flies, after a little undetermined buzzing, settled pertinaciously on a certain crack in the floor, and on the removal of one plank at this point the cause of offence was readily removed.

HYGIENE IN SCHOOLS IN HUNGARY.—At an Educational Conference, recently held in Buda-Pesth, under the presidency of M. Trefort, the Minister of Public Education, the following regulations were established: Every middle class school is to have a medical officer, who will receive an annual salary of 200 florins in schools where a complete course of instruction is given, and 100 florins in other schools. He must examine every pupil at the commencement of each scholastic year, and keep a constant watch over their health, and must give special attention to the prevention or eradication of infectious diseases. He will also give advice during gymnastic exercises. He will also keep a watch over the instruction in general; and, if he observe any deleterious influence in operation, with regard either to the whole school or to individual pupils, he will bring the same under the notice of the director of the school. In the complete schools, he will give instructions in hygiene, for two hours each week, to those pupils of the higher classes who may desire to receive it, the subject being treated in an easy and popular manner.

LANOLIN AN OLD REMEDY.—It appears that lanolin is not entitled to take rank among the most recent additions to the materia medica, inasmuch as Culpepper, the venerable "student in Physick," described it in his work published in 1650. This has been lately pointed out by a correspondent of the *Chemist and Druggist*, who gives the following extract:

"*The Way to make Œsipus.* Take wool cut off from the neck ribs, and under the pits of the forelegs of a sheep not washed, but well wearied, wash it well in warm water so long till it have left all its fatness in the water, then press it out and lay it by, let that fat and foul water be poured out from on high out of one vessel into another a long time till it be froathy, then let the froath settle, and take off the fat that swims at the top, then pour the water to and fro again, till neither more fat nor froath appears, then wash the froath with the fat in cleer water till it be cleansed from the dross and will not bite your tongue if you touch it with it; then keep in a thick earthen clean pot in a cold place."

DEATH OF PROFESSOR AUSPITZ.—Professor Heinrich Auspitz, editor of the *Vierteljahresschrift für Dermatologie und Syphilis*, died on May 21, 1886, in his fifty-second year.

BOWDOIN COLLEGE.—The graduating exercises of the Medical Department of Bowdoin College were held on Wednesday, June 23, 1886.

INDIANA STATE MEDICAL SOCIETY.—At the meeting of the Indiana State Medical Society, held at Indianapolis, May 11th and 12th, the following officers were elected for the present year:

President.—G. W. H. Kemper, M.D., of Muncie.

Vice-President.—W. V. Wiles, M.D., of Spencer.

Secretary.—E. S. Elder, M.D., of Indianapolis.

Assistant Secretary.—J. McLean Moulder, M.D., of Kokomo.

Treasurer.—C. B. Higgins, M.D., of Peru.

THE SOCIETY FOR CREMATION, in Copenhagen, has bought a site for a crematorium, for which it has given 22,000 crowns. Prof. Dahlerup has drawn the plan of the building, and the erection will be hastened so as to be used this year. It was originally intended to build the furnace on Siemens's method, but the cost being excessive, the Italian plan known as Goroni's has be substituted, the cost of which will be 9600 crowns.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT OF THE U. S. ARMY, FROM JUNE 15 TO JUNE 21, 1886.

PERIN, GLOVER, *Colonel and Assistant Surgeon-General, U. S. A.*—Granted leave of absence for one month, with permission to apply for one month's extension.—*S. O. 54, Department of Dakota*, June 14, 1886.

BILLINGS, J. S., *Major and Surgeon.*—Granted two months' leave of absence, with permission to go beyond sea, to take effect July 9, 1886.—*S. O. 138, A. G. O.*, June 16, 1886.

LANDENDALE, J. V., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon at Fort Concho, Texas.—*S. O. 70, Department of Texas*, June 12, 1886.

COMEGYS, EDWARD T., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon at Madison Barracks, Sackett's Harbor, New York.—*S. O. 61, Division of the Atlantic*, June 15, 1889.

BLACK, C. S., *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Stockton, Texas, to Fort Clark, Texas.—*S. O. 69, Department of Texas*, June 11, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE NAVY, FOR THE WEEK ENDING JUNE 19, 1886.

SWAN, R., *Passed Assistant Surgeon.*—Detached from Brooklyn, and wait orders.

LOVERING, P. A., *Passed Assistant Surgeon.*—Detached from Navy Yard, New York, and ordered to Brooklyn.

ARTHUR, GEORGE, *Passed Assistant Surgeon.*—Ordered to Navy Yard, New York.

RUSH, C. W., *Passed Assistant Surgeon.*—Detached from the "Franklin," and ordered to the "Brooklyn."

HAWKE, J. A., *Surgeon.*—Detached from the "Wabash," and ordered to the "Essex" July 1.

SMITH, HOWARD, *Surgeon.*—Ordered to the "Wabash."

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course, not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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